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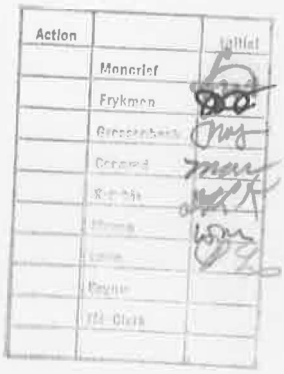
8 Control ✓ Boise Insect

INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION

FOREST SERVICE, U. S. DEPARTMENT OF AGRICULTURE

Ogden, Utah

Reed W. Bailey, Director



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Boise National Forest Annual Aerial Survey August 1957

By

W. E. Cole - W. E. Mineau
Entomologists

Prepared by

Division of Forest Insect Research

Boise Research Center
Boise, Idaho

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BOISE NATIONAL FOREST
ANNUAL AERIAL SURVEY
August 1957

By

W. E. Cole - W. E. Mineau[1/]
Entomologists

INTRODUCTION

The annual aerial survey of the Boise National Forest was conducted between August 7 and 14, 1957. Flights were made in the same manner as in the past to cover all forested areas by drainages. Where aerial observations indicated abnormal conditions further checks were made on the ground wherever possible. The purpose of this examination and subsequent ground checks was to detect, locate, and evaluate unusual forest insect activity. The aerial survey greatly aids in planning further comprehensive ground sampling of areas of infestation.

Within the past few years several forest pests have increased to epidemic proportions on the Boise National Forest. In 1951 some 2,300 ponderosa trees were treated for western pine and mountain pine beetles. 1954 saw the first of four large scale aerial control projects against defoliators. In that year 255,403 acres were sprayed for the pine butterfly, and in the three subsequent years approximately 1,044,672 acres have been sprayed for budworm. The Douglas-fir beetle has caused heavy losses annually and remains quite active in a few spots.

The aerial survey was flown at an altitude commensurate with safety and good observation. All observations were recorded on an electronic voice recorder and areas of infestations were plotted on a 1/4-inch scale map.

RESULTS

Each infestation of importance is described and keyed on the attached map.

Area A. This area includes Johnson Creek, the South Fork Salmon River, and Big Creek through Scott Valley.

A spider mite infestation covering about 3,300 acres exists throughout the headwaters of the Honeymoon Creek, Sand Creek, and Lugar Creek drainages. This area was sprayed during the 1956 Spruce Budworm Control Project.

1/ Forestry Aid-research

Area B. Elk Meadows and Courduroy Meadows form the center of this area. Approximately 32,800 acres of alpine fir are heavily damaged by an unknown defoliator. This area is probably the heaviest concentration of this type of damage on the Boise Forest.

Approximately 17,600 acres were found to contain medium budworm damage. This infestation lies to the south of Sulphur Creek extending up Dagger Creek. This was part of the 1956 spray project and in that year poor control was obtained within this same area.

Area C. This area covers the portion of the Boise Forest west of the North Fork Payette River.

Some 13,700 acres of light spotty budworm damage were located on the east slopes of Gabes Peak, Tripod Mountain and south to Smith Ferry. This infestation has been present in an endemic state for several years.

Scattered losses due to western pine and Douglas-fir beetles were observed, but are considered endemic.

Area D. The entire Middle Fork Payette River drainage is included in this area.

Loss due to the Douglas-fir beetle occurs rather sporadically throughout this drainage. This is no more than an endemic loss and at present is not threatening.

There appears to be off coloring of all tree species within this area, but the cause is unknown.

Area E. This area lies north of Wilson Peak, includes the head of Hole-in-the-Wall Creek, and centering at Coulter Summit. Some 7,700 acres are heavily defoliated by budworm. This area is a budworm research study plot and intensive sampling has been conducted within it for the past season.

South of Freeman Peak is an area of approximately 1,700 acres of an unknown defoliator on alpine fir.

A few scattered losses due to the Douglas-fir bark beetle were found to the east of the above areas.

Area F. This area includes the North Fork Boise River and the Bear River drainages.

About 18,900 acres of heavy damage of alpine fir by an unknown defoliator were mapped between Graham Guard Station and the headwaters of the Boise

River. A higher than average loss, due to the Douglas-fir bark beetle, is occurring within the Boar River drainage. Some 12 to 15 groups of about 10 trees each were spotted within this particular area.

Area G. Included within this area are the Middle Fork of the Boise River Decker Creek, and Queens River.

Three areas of 2,900, 5,200, and 4,600 acres, respectively, were found to be of heavy, light, and medium damage, respectively, in alpine fir within those three drainages. Again, this damage has been caused by an, as yet, unknown defoliator. This defoliator appears to be host specific and has been present since 1956.

Area H. This area forms a rather large triangle bounded by Heel Mountain, Thorne Creek Butte, and House Mountain.

Within this area lies the largest single area of alpine fir defoliation. The damage caused by this defoliator ranges from light to medium throughout the entire area of approximately 37,600 acres.

Losses due to bark beetles appear, at first, to be tremendous. However, most of the loss seen is an accumulation of the past years. Both the fir engraver and Douglas-fir bark beetle are active to some extent within most of the drainages, but particularly in Sheep and Smith Creeks. Damage appeared less around Thorne Creek Butte in 1957 than in 1956 or within the other drainages mentioned.

Approximately 200 to 300 alpine fir trees and an estimated 200 Douglas-fir trees were attacked within the previous year within area H. Roaring River and Lost Man Creek appear to be the center of the old losses.

A small spot of pine butterfly infestation was reported within Smith Creek covering about 2,700 acres.

SUMMARY

From the standpoint of insect loss, conditions on the Boise National Forest appear better than during previous years.

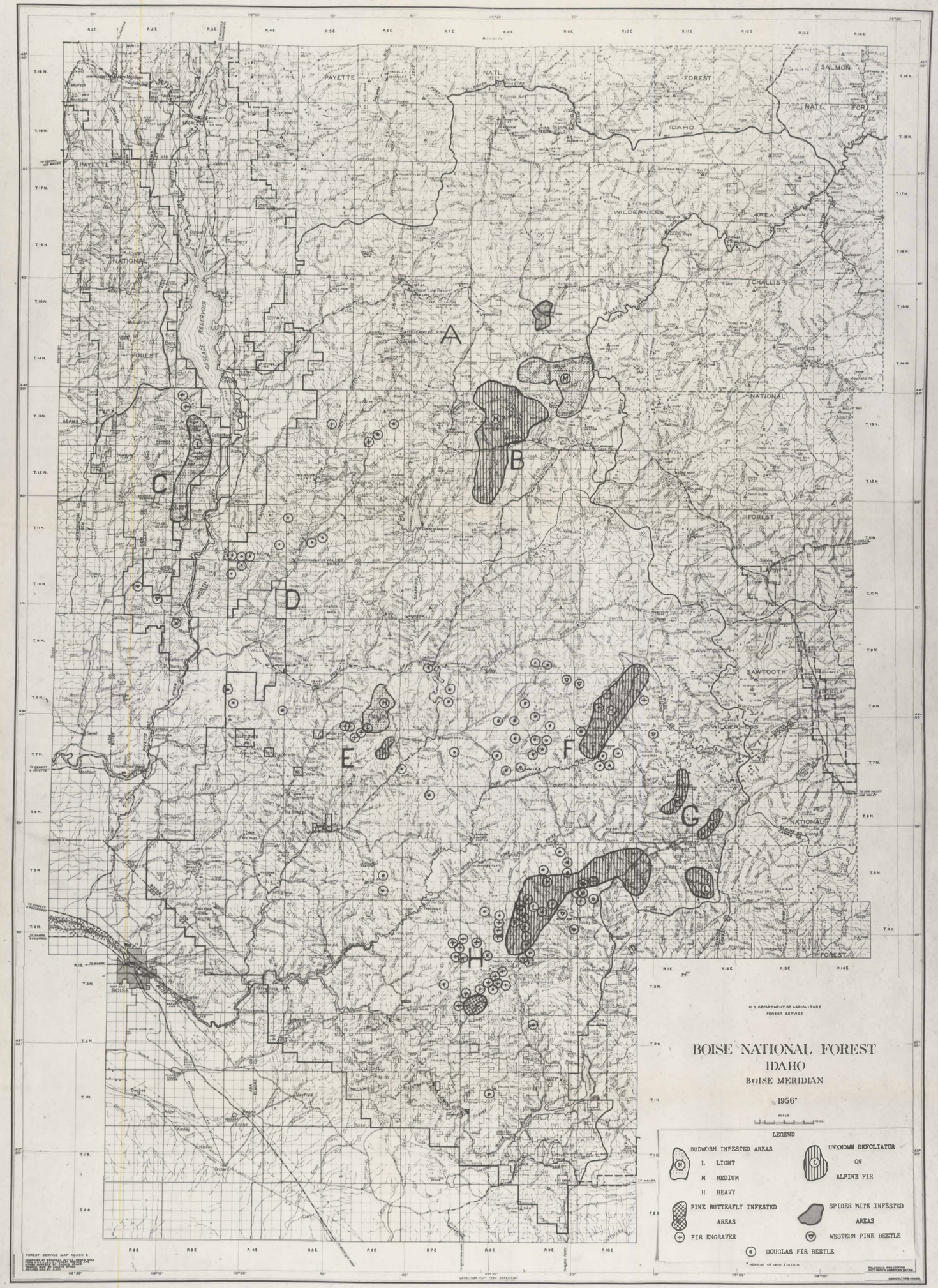
Only some 39,000 acres of budworm damage were located during the aerial surveys. While loss due to bark beetles do exist, a downward trend is evident.

The greatest damage is occurring to alpine fir over some 103,700 acres. The cause is as yet unknown, but appears to be host specific.

A small area of about 3,300 acres are infested with spider mites. This could have resulted from the 1956 spruce budworm spray project reducing the natural control organism of the mite.

Table 1. Acreage and degree of severity of insect damage on the Boise National Forest

Area	Insect	Acreage of defoliation			Total
		Light	Medium	Heavy	
A	Spider Mite	3,300	--	--	3,300
	Budworm	--	17,600	--	17,600
B	Unknown defoliator A.F.	--	--	32,800	32,800
C	Budworm	13,700	--	--	13,700
E	Budworm	--	--	7,700	7,700
	Unknown defoliator A.F.	--	1,700	--	1,700
F	Unknown defoliator A.F.	--	--	18,900	18,900
G	Unknown defoliator A.F.	5,200	4,600	2,900	12,700
H	Unknown defoliator A.F.	37,600	--	--	37,600
	Pine butterfly	2,700	--	--	2,700
	Total budworm	13,700	17,600	7,700	39,000
	Total spider mites	3,300	--	--	3,300
	Total unknown defol.	42,800	6,300	54,600	103,700
	Total pine butterfly	2,700	--	--	2,700


A
B
C
D
E
F
G
H
PAYETTE
NATIONAL
FOREST
IDAHO
SALMON
NATL. FOR.
WILDERNESS
AREA
CHALLIS
SAWTOOTH
BOISE
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
BOISE NATIONAL FOREST
IDAHO
BOISE MERIDIAN
1956*
LEGEND
BUDWORM INFESTED AREAS
L LIGHT
M MEDIUM
H HEAVY
PINE BUTTERFLY INFESTED AREAS
FIR ENGRAVER
UNKNOWN DEFOLIATOR ON ALPINE FIR
SPIDER MITE INFESTED AREAS
WESTERN PINE BEETLE
DOUGLAS FIR BEETLE
*REPRINT OF 1950 EDITION